	ork Order ID 94503 cember-19-12 11:32:22 AM m ID: D2282-043				*945	in3*						Page 1
tem ID: Revision ID: tem Name:	D2282-043 Saddle Asser				Accept	*N900	<u>040</u>	100)* s	etup Start Stop	ı Vı .	S1* S2*
Start Date: Required Date: Reference:	1/08/13	Start Qty Req'd Qt		*4* *4*		Cust Item 1 Customer:	ID:					12
Approvals:	Process Pi	lan: MLS	<u> </u>	Date: \2-\2- Z		D	ate:		- R	kun Start Stop	*NI	R1*
	QC:			Date:	SPC (Y/N):	D	ate:			этор	*N!	R2*
Sequence ID/ Work Center I	D	Operation Descriptio			Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Re	vision Nbr	:	*.								
D2282	Re	v E		: :								
*100 *100* Large Fab Large Fab			Memo I-Weld as pe A/RER316L	r D2282-043 Saddle Ass SS Filling Rod Dwg Rev:	n121603	·.			(6)	216	13-C)1-09
110 *110* Small Fab Small Fab			Memo	d with rough pad and broad	0.00 0.00 wn pad, take all welding r	narkes out and			_6_	φ <u></u>	Ae	, 2 <u>13.0</u> 1.0
oman i av					AND BLUE PAD TO BU						•	
*120		QC9- Inspec	t visual per (SI004- Fusion Welds	0.00	AS) 13./.	7		b			
QC			Memo		0.00	-83/			_ - ~			

Quality Control

										DQA:	Date:	
NCR:	res / No)			WORK ORDER NON-	COI	NFORN	/ANCE / UPI	DATE		D-4	
					ı					QA Closed:	Date:	
Work Orde	ar:				DISPOSITION				AGAINST DE	PARTMENT,	/PROCESS	
Part N	No				Rework Scrap Use-as-is Work Order Update Skid-tube Machining Machining Thermoforming Finishing Composite			4	Water Jet En Prod. Eng. Coor. Rec/Store/Packaging Supplier			
Root	1	1	1 1	Descri	ption of work order update	\overline{T}	Initial	Act	tion	Sign &		
Cause	Date	Step	Qty		or Non-conformance	1	nief Eng		ription	Date	Verification	QC Inspector
Doc/Data Equip/Tooling Operator Material Setup Other Process Supplier Training Unapproved												
					F	AUI	LT CATE	GORY				
Landi	Cracks Crushe Cuffs Heat T	Not Conce	r [*])/S	General Bend BOM/Route Broken/Damaged Burrs Contamination Countersink Cut Too Short		Instruct Mainte Mislabe Misreac	on Incomplete ions Incomplete/U nance fed	Unclear	Ovalized Over/Under Part Incorre Part Lost/M Part Moved Positioned N	ct issing Vrong	Pressure/Forced Temperature/Cure Weld Wrong Stock Pulled
	Ripple	s in Bend			Drill Holes		Offset					

Out of Calibration

Out of Sequence

Outside Dimensions

Turning Sequence

Wave/Twist in Tube

Torque Waves in Extrusion

Drawing

Finish

Folio

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

Work Ord December-19-1		4M		*945	ივ*						Page
Item ID: Revision ID: Item Name:	D2282-043 Saddle Asser		·	Accept	*N900				Setup Star	* *N	S1* S2*
Start Date: Required Date Reference:	1/08/13	Start Qty: 4.00 Req'd Qty: 4.00	*4* *4*		Cust Item I Customer:	D:				N	. 7
Approvals:		lan:	Date:			ate:			Run Star		R1* R2*
Sequence ID/ Work Center 1		Operation Description		Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accep Qty	Qty	Reject Number	Insp. Stamp
130 Small Fab		Memo 1 -Tumble		0.00				10	76	13.	<i> - </i>
150		QC5- Inspect part comple	eteness to step on W/O	0.00 DAS 15 0.00							
150 QC Quality Control		Мето		11-1-2100.0				6	<u> </u>		

160

Identify as per dwg & Stock Location

0.00

160 Packaging

Memo

0.00

Packaging

											DQA	: Date:	
NCR:	Yes	/ No				WORK ORDER NON-O	O	NFORN	/IANCE / UP	DATE	0.4.61	Data	
						<u> </u>					QA Closed	: Date:	
Work Orde	or.					DISPOSITION				AGAINST DE	PARTMEN	T/PROCESS	
WOIR OIG	-					Rework	1		Skid-tube	Crosstube]	Water Jet	Engineering
Part f	Vo.					Scrap			Machining	Small Fab	Pr	od. Eng. Coor.	Quality
	-					Use-as-is	1	Therm	noforming	Finishing	Rec/Sto	ore/Packaging	Other
NCR N	No.					Work Order Update]		Large Fab	Composite]	Supplier	
L									·		- r		
Root					1	ption of work order update	ł	nitial		tion	Sign &	_	
Cause	_	Date	Step	Qty	(or Non-conformance	Ch	ief Eng	Desc	ription	Date	Verification	QC Inspector
Doc/Data	Ш												
Equip/Tooling	Ш								ļ				
Operator	Ш						Ì		I				
Material	Ш								ļ			ļ	
Setup													
Other	Ш												
Process	Ш												
Supplier	Ш												
Training	Ш	-									1		
Unapproved							<u>L</u>				<u></u>		
							AUI	T CATE	GORY				
Landi	ng G	ear				General		1			7		7
	Щ	Bending				Bend		Grain			Ovalized		Pressure/Forced
	Щ	Centre No	ot Conce	ntric to	o/s	BOM/Route		Hardwa			⊣	er tolerance	Temperature/Cure
		Cracks				Broken/Damaged	<u> </u>	Inspecti	ion Incomplete		Part Incorr	ect	Weld
	Ц	Crushed/0	Crimped			Burrs		₹	ions Incomplete/	/Unclear	Part Lost/I	Missing	Wrong Stock Pulled
	Щ	Cuffs				Contamination		Mainte	nance		Part Move		
		Heat Trea	t		L	Countersink	L	Mislabe	eled		Positioned	Wrong	-
]	Inspection	n Strip in	Tube		Cut Too Short		Misread	į.		Power Los	s/Surge	Other

Offset

Out of Calibration

Out of Sequence

Outside Dimensions

Turning Sequence

Wave/Twist in Tube

Ripples in Bend

Inspection Strip in Tube

Torque Waves in Extrusion

Drill Holes

Drawing

Finish Folio

Work Orde December-19-12				*945	50.3*							Page 3
Item ID: Revision ID: Item Name:	D2282-0			Accept	*N900	040	100	* s	Setup	Start Stop		S1* S2*
Start Date: Required Date: Reference:	1/08/13 1/08/13	Start Qty: 4.00 Req'd Qty: 4.00	*4* *4*	·	Cust Item I Customer:	D:						• • •
Approvals:	Process QC:	s Plan:	Date:	Tooling: SPC (Y/N):		ate:		I	Run	Start Stop	*N	R1*
Sequence ID/		Operation		Set Up/	Tool ID	Tool #	Plan	Accept	Reje	ect I	Reject	Insp.
Work Center II	D	Description		Run Hours	100115	100111	Code	Qty	Qty		Number	Stamp
170 *17.0*		QC21- Final Inspection	- Work Order Release	0.00						13,	۱۱/۱/	5

Memo

Quality Control

											DQA:	Date	: :	
NCR:	Yes	/ No				WORK ORDER NON-C	100	NFORM	MANCE / UPDA					
											QA Closed:	Date	9:	·
Work Orde	∍r·					DISPOSITION				AGAINST DE	PARTMENT	/PROCESS		
Work Orac						Rework	1		Skid-tube	Crosstube		Water Jet	\neg	Engineering
Part N	No.					Scrap	1		Machining	Small Fab	Pro	d. Eng. Coor.		Quality
	_					Use-as-is		ł	noforming	Finishing	Rec/Stor	e/Packaging		Other
NCR N	۱o			J		Work Order Update			Large Fab (Composite		Supplier		
Root					Descri	tion of work order update	 	nitial	Action	n	Sign &			
Cause		Date	Step	Qty	(or Non-conformance	Ch	ief Eng	Descript	tion	Date	Verification	\perp	QC Inspector
Doc/Data							Ì							
Equip/Tooling	Ш		ļ										1	
Operator	Ш						Ì							
Material	Ц													
Setup	Щ													
Other	Ц													
Process	Ц													
Supplier	Ц													
Training	Ш													
Unapproved			l											
			····				AUL	T CATE	GORY					
Landi					r	General		1			l	Г	_	
	_	Bending				Bend	<u> </u>	Grain		<u> </u>	Ovalized			ressure/Forced
	-	Centre No	ot Concer	ntric to (o/s	BOM/Route	_	Hardwa		ļ	Over/Under	 -		emperature/Cure
	$\boldsymbol{\vdash}$	Cracks				Broken/Damaged	<u></u>	4	ion Incomplete		Part Incorre	F		Veld
	-	Crushed/	Crimped			Burrs		-	ions Incomplete/Und	clear	Part Lost/M	- L		Vrong Stock Pulled
	-	Cuffs			<u> </u>	Contamination	-	Mainte			Part Moved			
	Н	Heat Trea			<u> </u>	Countersink	-	Mislabe		<u> </u>	Positioned V		— 1	- · ·
		Inspection		Tube	<u></u>	Cut Too Short	<u>_</u>	Misread	d	L_	Power Loss/	Surge	C	Other
		Ripples in	Bend		1	Drill Holes	1	Offset						

Out of Calibration

Out of Sequence

Outside Dimensions

Turning Sequence

Wave/Twist in Tube

Torque Waves in Extrusion

Drawing

Finish

Folio

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

Work Order ID:

94503

Parent Item:

D2282-043

Parent Item Name:

Saddle Assembly

Start Date: 1/08/13

Required Date: 1/08/13

Start Qty: 4.00

Required Qty: 4.00

Comments:	IPP Rev:A	Removed from 9 Dig	git 0)5-12-02 JLN	А .								
Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D2281 Dack-Saddle		Manufactured	No			100	Each	57.0000	(46)	me ⁴	/3-	01-0	9
				Location		Loc Qty	<u>Lo</u>	c Code					
B-9200	10 _+ _	61		GA		10							
	0	, ,		843	21	10							
				WA001		47							
				675	39	17							
	•			920	90	30							
D2282-7 _{\$} Tube		Manufactured	No			100	Each	37.0000	2 (x /o	2) 300	2 /	/3-0	1-09
الم المستونية المارية				Location		Loc Qty	<u>La</u>	oc Code					
				WA001		5							
				800	15	5							
135720	94 x	12)		WA002		32							
· · · · · · · · · · · · · · · · · · ·		-		916	09	2							
				920	94	30							

NCR:	Yes	1	No
		,	

NCR: Y	/es	/ No					WORK ORDER NON-O	CON	NFORI	MANCE / UF	PDATE				
												QA Closed:	Date	:	7
Vork Orde	er:						DISPOSITION				AGAINST DI	PARTMENT	PROCESS		
	•	<u>-</u>				ı	Rework			Skid-tube	Crosstube		Water Jet	Engineering	۱
Part N	10.						Scrap			Machining	Small Fab		d. Eng. Coor.	Quality	I
			ı	Use-as-is		Thern	noforming	Finishing	Rec/Stor	e/Packaging	Other	۱			
NCR No.				l	Work Order Update Large Fab Composite			Supplier							
Root					Desc	rip	tion of work order update		nitial	A	ction	Sign &			1
Cause		Date	Step	Qty ·		01	r Non-conformance	Ch	ief Eng	Des	cription	Date	Verification	QC Inspector	1
oc/Data															
uip/Tooling															
perator															
aterial															İ
etup															١
ther															
ocess															
pplier															
aining															ı
napproved								<u>L</u>							
							F	AUL	T CATE	GORY					_
Landi	ng (Sear			-		General				_	_	_		
		Bending					Bend		Grain			Ovalized		Pressure/Forced	
		Centre No	ot Concer	ntric to	o/s		BOM/Route		Hardwa	ire		Over/Under	tolerance	Temperature/Cure	
		Cracks					Broken/Damaged		Inspect	ion Incomplete		Part Incorre	ct	Weld	
		Crushed/0	Crimped				Burrs		Instruct	tions Incomplete	/Unclear	Part Lost/Mi	ssing	Wrong Stock Pulled	
		Cuffs					Contamination		Mainte	enance		Part Moved			
		Heat Trea	it		Γ		Countersink		Mislabe	eled		Positioned V	Vrong		
	Inspection Strip in Tube Cu					Cut Too Short		Misrea	d	Γ	Power Loss/	Surge	Other		
Ripples in Bend						Drill Holes		Offset			_			_	
Torque Waves in Extrusion						Drawing _		Out of	Calibration						
		Turning S	equence		ſ	\sqcap	Finish		Out of	Sequence					
		Wave/Tw	ist in Tul	эe	ſ		Folio	Г	Outside	Dimensions					

DQA:

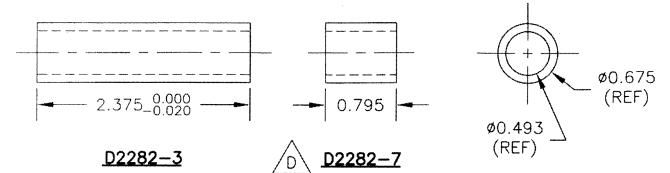
Date:



DESIG	N BW	DRAWN BY	DART AEROSPAC HAWKESBURY, ONTARIO,	
CHECK	(ED)	APPROVED	drawing no. D2282	REV. E SHEET 1 OF 2
DATE		1 156/2	TITLE	SCALE
05.0	06.07		HANDLE TUBES	1:1
Α		94.10.14	NEW ISSUE	
В		95.03.23	RE-DESIGN	



55.0	30.07	MANULE TODES 1:
A	94.10.14	NEW ISSUE
В	95.03.23	RE-DESIGN
С	97.10.20	CORRECTED NUMBERING SCHEME
D	05.03.16	REDESIGN D2282-5; 0.795 WAS 0.750
Ε	05.06.07	D2282-5 304 SS WAS 303 SS; R0.063 x 0.063 WAS R0.080 x 0.030



D2282-3/-7 TUBE:

- 1) MATERIAL: T304/T316 3/8 SCHEDULE 40 (REF. DART SPEC. M304TR0.675W.091)
- 2) BREAK ALL UMARKED SHARP EDGES 0.005 TO 0.010
- 3) ALL DIMENSIONS ARE IN INCHES

4) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

R0.063 × 0.063 DEEP

R0.090 × 45°
CHAMFER

0.158

0.125
(REF)

D2282-5 STEM:

R0.063 × 0.063 DEEP

R0.063 × 0.063 DEEP

0.090 × 45°
CHAMFER

RETURN TO MENOMENT OF STANKEN TO THE STANKEN THE STA

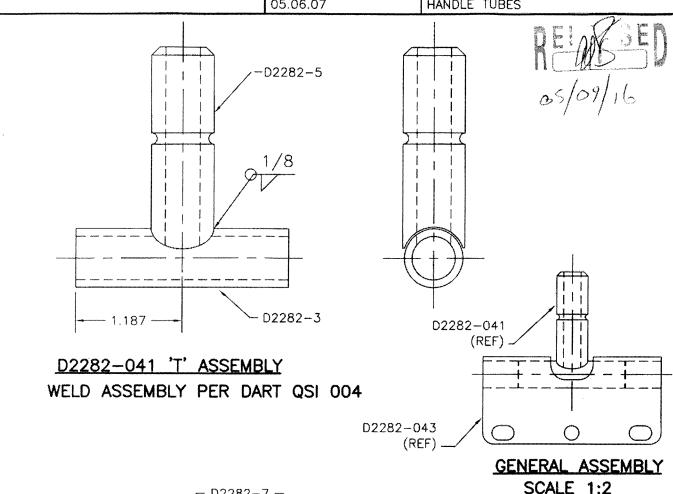
- 1) MATERIAL: AISI 304 STAINLESS STEEL (REF. DART SPEC. M304R0.750)
- 2) BREAK ALL UMARKED SHARP EDGES 0.005 TO 0.010
- 3) ALL DIMENSIONS ARE IN INCHES
- 4) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

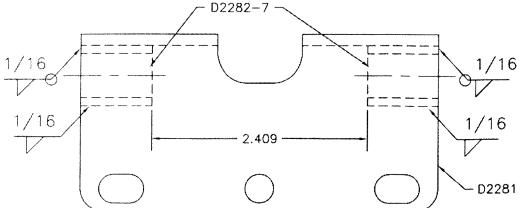
Copyright @ 1994 by DART AEROSPACE LTD

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.



DESIGN BW	DRAWN BY	DART AEROS HAWKESBURY, ON	
CHECKED	APPROVED	DRAWING NO.	REV. E
l u'	1 1116	D2282	SHEET 2 OF 2
DATE		TITLE	SCALE
05.06.07		HANDLE TUBES	1:1





D2282-043 SADDLE ASSEMBLY WELD ASSEMBLY PER DART QSI 004

Copyright © 1994 by DART AEROSPACE LTD

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.

